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PRACTICE PUTTER AND HEAD

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BACKGROUND

The present invention relates generally to golf clubs and methods, and more particularly, to a putter and putter head for use in putting practice that is designed to improve the users ability to contact the golf ball on the sweet spot of the putter.

Most conventional golf ball putters are designed for use on golf courses during play. Such conventional putters have a putter head that has generally flat hitting surface. The putter head may have a blade design or a mallet design configured in numerous shapes.

A variety of practice putters have also been designed for use in practicing, some of which may also be used during play. The US Patent Office patent database was searched for practice putters as identified in the title of the patent. A number of design and utility patents were listed in the database search. The design patents include design patent numbers D407,452 entitled "Golf putter head with removable practice mirror", D394,291 entitled "Combination golf putter and golf ball display stand and putt practice device", D367,909 entitled "Golf putting practice aid for use on a golf putter", and D344,563 entitled "Golf practice putter".

The utility patents revealed in the database search include US Patent No. 5,524,895 issued to Nakajima entitled "Practice golf club putter", US Patent No. 5,478,078 issued to Lee entitled "Golf putting practice device for use on a golf putter", US Patent No. 5,388,832 issued to Hsu entitled " Practice-type golf putter", US Patent No. 5,240,253 issued to Cooper entitled "Practice aid golf club putter", US Patent No.

4,135,720 issued to Lancellotti entitled "Golf putter practice device", and US Patent No. 3,979,125 issued to Lancellotti entitled "Golf putter practice device".

US Patent No. 5,524,895 discloses a practice golf club putter comprising a grip and an elongated shaft extending from the grip to a putter head. The putter head has a convex striking surface with three spherical bodies affixed to each other in a V-position side by side relationship

US Patent No. 5,478,078 discloses a golf putting practice device including a C-shaped body member having a rear surface with a pressure sensitive adhesive backing for removably attaching a guiding device to the striking face of a golf putter. The device also includes a front surface having a pair of elongated vertical rails disposed on both inside edges of a pair of vertical legs. Two pairs of pins are disposed near the ends of the rails, and a marker pin is disposed on the center of a bridge connected to both legs. When properly stroked with the golf putter, the rails and pins allow a golf ball to pass therebetween and strike the sweet spot through an aperture in the C-shaped body member, which causes the golf ball to roll straight in the direction of the intended target. when the golf ball is improperly stroked, it strikes the rails or pins and is turned away from the target.

US Patent No. 5,388,832 discloses a practice-type golf putter comprising a grip, a shaft, a neck and a head. The grip contains batteries. The shaft and the neck are hollow structures for enclosing a pair of wires. A switch is connected between the batteries and the wires. The head comprises a curved plate including a wall extending upward from one side thereof for hitting a golf ball. A socket is mounted on the curved plate and has a body portion and a U-shaped bracket integrally formed at a top of the body portion. A receptacle including two beams extending oppositely and laterally from a periphery thereof provide for pivotal connection to two upright walls of the U-shaped bracket. A laser radiator in the receptacle has a first end electrically connected to the wires that extends from the neck and a second end that protrudes beyond the receptacle for emitting laser light when the wires are electrically connected to the batteries. A sleeve cover including a first end is coupled the receptacle and a second end defining a hole allowing laser light to emit therefrom.

US Patent No. 5,240,253 discloses a golf club putter that includes an elongated cylindrical extension removably secured to project forwardly along the club head centerline and providing a cue stick-like tip for learning to strike a ball squarely during practice. For play, the extension is either relocated along the centerline behind the club face, or replaced by an insert, to maintain the club weight constant for play.

US Patent No. 4,135,720 discloses a golf putter practice device comprising a movable indicator and a plurality of separate depressions or channels with one of the

depressions or channels defining a path normal to the face of the putter and with the other depressions or channels defining angular paths with respect to the putter face. Consequently, upon impact with a golf ball, the momentum imparted to the indicator causes it to move forwardly into one or more of the depressions or channels dependent upon the orientation of the putter in relation to the ball upon impact therewith. This enables corrections to be made to the putting stroke if the indicator shows that during the previous putt, the club face was not properly positioned with respect to the ball upon impact. The movable indicator may be a steel ball that is retained in its initial position by a magnet. To avoid distraction, a pivotable plate or cover may be provided to obscure the indicator elements from view during the putting stroke.

US Patent No. 3,979,125 discloses a golf putter head that includes a reservoir for receiving a fluid indicator and a plurality of separate divergent channels in communication therewith with one of the channels disposed normal to the ball striking face of the putter head. Upon impact with a golf ball, the momentum imparted to the indicator fluid causes it to flow forwardly into one or more of the channels dependent upon the orientation of the putter in relation to the ball upon impact therewith. The channels are further constructed so that the liquid indicator entering such channels is maintained therein so that a positive after-the-fact indication of the orientation of the putter face in regard to the ball upon impact is obtained. This enables corrections to be made to the putting stroke if the liquid indicator shows that during the previous putt, the club face was not properly positioned with respect to the ball upon impact.

It would therefore be desirable to have a practice putter that may be used to improve the golfers ability to strike the golf ball on the sweet spot of the head of the putter. Accordingly, it is an objective of the present invention to provide for an improved putter and putter head that is designed for use during putting practice.

SUMMARY OF THE INVENTION

To accomplish the above and other objectives, the present invention provides for a putter and putter head for use during putting practice. The practice putter is used to improve a golfer's ability to contact the golf ball on the sweet spot of the putter.

The practice putter has a grip and a shaft as in conventional putters. The shaft is connected to a putter head that is specifically designed to be use during practice and that has a design the will improve the golfer's ability to contact the golf ball on the sweet spot of the putter head.

The putter head has a generally flat base with an upwardly extending front surface having a relatively small, centrally-located, flat ball contact surface that comprises the sweet spot of the putter head. The remainder of the front surface of the putter head

tapers away from the flat ball contact surface toward the rear of the putter head. The tapered portions of the front surface of the putter head may be flat or curved, but in any event are angled with respect to a normal to the flat ball contact surface.

The balance of the putter head may be designed in a conventional manner consistent with overall weight concerns. An exemplary putter head has lateral portions that are relatively thick that each have openings formed therein that receive the shaft. Thus, the practice putter may be made so that it is either left or right handed. The rear portion of the exemplary putter head has a cavity formed therein that reduces the overall weight of the putter head.

In operation, striking a golf ball with the flat ball contact surface propels the ball in a desired direction, while a mishit propels the ball in an undesirable direction. This clearly indicates to the golfer whether or not the ball was stuck on the sweet spot (the relatively small, centrally-located, flat ball contact surface) of the putter head. This induces the golfer to properly contact the sweet spot to correctly strike the golf ball.

BRIEF DESCRIPTION OF THE DRAWINGS

The various features and advantages of the present invention may be more readily understood with reference to the following detailed description taken in conjunction with the accompanying drawings, wherein like reference numerals designate like structural elements, and in which:

Fig. 1 illustrates a front view of an exemplary practice putter in accordance with the principles of the present invention;

Fig. 2 is a side view of the practice putter shown in Fig. 1;

Fig. 3 is a top view of an exemplary head that may be used in the practice putter shown in Figs. 1 and 2;

Fig. 4 is a front view of the an exemplary head that may be used in the practice putter shown in Figs. 1 and 2;

Fig. 5 is a back view of the an exemplary head that may be used in the practice putter shown in Figs. 1 and 2; and

Fig. 6 is a side view of the an exemplary head that may be used in the practice putter shown in Figs. 1 and 2.

DETAILED DESCRIPTION

Referring to the drawing figures, Figs. 1 and 2 illustrate front and side views, respectively, of an exemplary practice putter 10 in accordance with the principles of the present invention. Figs. 3-6 are top, front, back and side views, respectively, of an exemplary head 20 that may be used in the practice putter 10 shown in Figs. 1 and 2.

As is shown in Figs. 1 and 2, the practice putter 10 comprises a shaft 11 having a grip 12 disposed at its upper end. The end of the shaft 11 that is distal from the grip 12 is connected to a putter head 20 in accordance with the principles of the present invention. The shaft 11 is attached to the putter head 20 at its hosel 26, which is a socket or hole into which the shaft 11 is inserted. It is to be understood that the hosel 26 and the shaft 11 in the area of the hosel 26 may have any suitable configuration and is not to be considered as limiting the present invention. Furthermore, the shaft 11 may be straight or have an offset, such as is shown in US Patent Nos. 5,388,832 or 5,240,253, for example, which also illustrate various hosels 26. The putter head 20 is optimally designed for use during practice and has a design the will improve a golfer's ability to contact a golf ball on the sweet spot of the putter head 20.

Figs. 1 and 2 show that the putter head 20 has a body 21, which may be made of a suitable metal, for example. In plan view, the body 21 generally has a trapezoidal shape that includes a base 22 having an upwardly extending front surface comprising a relatively small, centrally-located, flat ball contact surface 23. This ball contact surface 23 comprises the sweet spot of the putter head 20. Lateral portions 24 of the front surface of the putter head 20 tapers away from the flat ball contact surface 23 toward the rear of the putter head 20.

In the exemplary putter head 20 illustrated in the drawing figures, the lateral portions 24 of the front surface are flat surfaces. However, it is to be understood that the lateral portions 24 of the front surface may have any surface shape, such as curved (illustrated by the dashed lines in Fig. 3). The shape that is chosen for the lateral portions 24 of the front surface is selected so that a golf ball that strikes either of them will not be propelled in the direction of motion of the putter head 20.

The balance of the putter head 20 may be designed in a conventional manner consistent with overall weight concerns. As is shown more clearly in Figs. 3-6, the putter head 20 has a generally flat base 22. The lateral portions 24 of the front surface terminate at relatively thick ends 25 that each have an opening 26, 26a or hole 26, 26a therein, referred to as the hosel 26, 26a. The shaft 11 is designed to insert into the openings 26, 26a or holes 26, 26a (hosel 26, 26a) so that the practice putter 10 may be configured to be either right or left handed.

A rear portion of the exemplary putter head 20 defined by the base 22, front surface and ends 25 has a cavity 27 formed therein that reduces the overall weight of the putter head 20. The cavity 27 is shown having straight side walls and a curved front wall located adjacent to the lateral portions 24 and lateral portions 24 of the front surface.

In operation, striking a golf ball with the flat ball contact surface 23 propels the ball in a desired direction that is normal to the direction of motion of the putter head 20

and contact surface 23. A mishit of the golf ball (that is, not on the contact surface 23) propels the ball in an undesirable direction. This clearly indicates to the golfer whether or not the ball was stuck on the sweet spot (the relatively small, centrally-located, flat ball contact surface 23) of the putter head 20. This induces the golfer to properly contact the sweet spot to correctly strike the golf ball.

For the purposes of completeness, dimensions of a typical putter head 20 are provided below. The rear dimension of the base 22 of the putter head 20 may be about 4.5 inches in length. The ball contact surface 23 may be on the order of 5/8 to 1/2 inches wide. The lateral portions 24 of the front surface are generally symmetrical and taper to the distal edges of the ends 25 of putter head 20. The lateral portions 24 may taper towards the rear of the putter head 20 a distance of about 3/8 inches. The lateral ends 25 of the putter head 20 may be about 3/4 inches in depth at the respective outer edges of the putter head 20 and about 1 inch in width at the rear surface of the putter head 20. The openings 26, 26a or holes 26, 26a (hosels 26, 26a) have a diameter consistent with the diameter of the shaft 11. The shaft 11 may be press fit into the holes 26, 26a (hosels 26, 26a) or may be threaded into suitably-threaded holes 26, 26a (hosels 26, 26a).

Thus, an improved putter and putter head that is designed for practice putting has been disclosed. It is to be understood that the above-described embodiment is merely illustrative of some of the many specific embodiments that represent applications of the principles of the present invention. Clearly, numerous and other arrangements can be readily devised by those skilled in the art without departing from the scope of the invention.